

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.**

Application Serial Number: 10/590,552  
Source: JFWP  
Date Processed by STIC: 09/01/2006

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IFWP

## **RAW SEQUENCE LISTING**

PATENT APPLICATION: US/10/590,552

DATE: 09/01/2006

TIME: 12:08:10

Input Set : F:\SEQUENCE LISTING.txt

Output Set: N:\CRF4\09012006\J590552.raw

3 <110> APPLICANT: ITO, Yoshitaka  
4 TAKAMIZAWA, Kazuhiro  
5 IWASHI, Hitoshi  
7 <120> TITLE OF INVENTION: METHOD OF JUDGING BIOLOGICAL ACTIVITY IN BIOREMEDIAL SITE  
AND  
8 POLYNUCLEOTIDE FOR DETECTING MICROORGANISM TO BE USED THEREIN  
10 <130> FILE REFERENCE: 10873.1940USWO  
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/590,552  
13 <141> CURRENT FILING DATE: 2006-08-23  
15 <150> PRIOR APPLICATION NUMBER: PCT/JP2005/003175  
16 <151> PRIOR FILING DATE: 2005-02-25  
19 <150> PRIOR APPLICATION NUMBER: JP application No.2004-50082  
20 <151> PRIOR FILING DATE: 2004-02-25  
22 <150> PRIOR APPLICATION NUMBER: JP application No.2004-50083  
23 <151> PRIOR FILING DATE: 2004-02-25  
25 <160> NUMBER OF SEQ ID NOS: 118  
27 <170> SOFTWARE: PatentIn version 3.3  
29 <210> SEQ ID NO: 1  
30 <211> LENGTH: 742  
31 <212> TYPE: DNA  
32 <213> ORGANISM: Dehalospirillum multivorans  
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37 agggcacta tctcacaatg gtgcgtccggc gagcatagct agggaaagctt atttagtttt 120  
39 gagagattga atgaaaaaagg ggcttatagc tcaggtgtt agagcgtacc cctgataagg 180  
41 gtaaggtcag aggttcgagt cctcttaagc ccaccatggg gaatttagctc agctgggaga 240  
43 gcgcctgctt tgcacgcagg aggtcagcgg ttcgatcccc ctattctcca ccattttta 300  
45 gagaatggt gaaagattgc caagagacat tgtagtgag aatgaagaca caatgtctaa 360  
47 tataagaaca atttaggtt ttttatatt agactttta gtctaagttt atgttctaca 420  
49 atttagaata cgacgctttg tggtgtgctg taggttttgt tcttaagat agctttgcta 480  
51 tctggtgaaa gaacataaaag atgttattta atttattttt gtcaaagtca acaaaaacgca 540  
53 aaaaaaaacaa ttacaactt gtttagatgtt ttacattta taagggagtg aaatgtgcat 600  
55 tagaatacaa ataggtaagc tattaagagc gaatgggtga tgcttaggct gtaagaggcg 660  
57 atgaaggacg tactagactg cgataagttt cggggagctg tcaagaagct ttgatccgt 720  
59 aatttccgaa tggggcaacc ca 742  
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63 <211> LENGTH: 527  
64 <212> TYPE: DNA  
65 <213> ORGANISM: Desulfobacterium frappieri  
67 <400> SEQUENCE: 2  
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70 catgttcact ctggaaagtga gcatatccca aggtcgatgc tttagaggac gtcacggaaag 120  
72 agatgaagtg aaacggttca aagctggaga agtctgaaga gacttcgaaa tgccgaagag 180  
74 qcaaagcagg qgaaatctqc ataaqatqac cctgaaatcg agtcaaaccct gttcaaqcqc 240

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76 aagcttactt gttgttagt tttgagggac cagcaatgga aactcattat tttttgacc	300
78 aaaagtcaag aaaaactgtt cttgaaaac tgcacagaga agaaaaaaact gtaatttagg	360
80 ataacatctg aaaaacctga atgtggcga gacgttggt caagctacta agggcgtacg	420
82 gtggatgcct aggcgctaag agtcgaagaa ggacgcggcg agcggcgaaa cgccacgggg	480
84 agcagtaagc atgcttgat ccgtggatat ccgaatgggg caaccca	527
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88 <211> LENGTH: 478	
89 <212> TYPE: DNA	
90 <213> ORGANISM: Actinomycetales Sm-1	
92 <400> SEQUENCE: 3	
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97 acgtaatccg gtgggtctca tgggtggAAC gctgacagct acttctcgctc cgggtcccg	180
99 ttctgtgcgg gatccgagga gttatatcggt gcactgttg ggtcctgaga gaacacgcga	240
101 gtgtttgtc agcgacgatg atccgcgaaa caagaggaca tggtttctt gcggtagggg	300
103 ttgttgtgtg ttgttgaga actgcacagt ggacgcgagc atcttgcgtt taagtgttta	360
105 tgagcgtacg gtggatgcct tggcaccagg agccgatgaa ggacgtggga ggctgcgata	420
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112 <212> TYPE: DNA	
113 <213> ORGANISM: Rhodococcus rhodococcus	
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120 cacacgtaat ccgtgggtgc tcatgggtgg aacgctgaca gtcaccccg cgcggaaagg	180
122 acccgagtgt ccttctgcgg tggttatatac ggtgcactgt tgggtcctgaa gagaacacgc	240
124 gagtttttgc tcaagcgacga tgatcgggaa cgaagggtt gtttcttcc cgggtaccgg	300
126 ttgttgtgtg ttgttgaga actgcacagt ggacgcgagc atcttgcgtt taagtgttta	360
128 tgagcgtacg gtggatgcct tggcaccagg agccgatgaa ggacgtggga ggctgcgata	420
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133 <210> SEQ ID NO: 5	
134 <211> LENGTH: 952	
135 <212> TYPE: DNA	
136 <213> ORGANISM: Xanthobacter flavus	
138 <400> SEQUENCE: 5	
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147 ctgtagctca ggtggtaga ggcacccct gataagggtt aggtcggagc ttctcgatcg	300
149 cccaggccca ccaccatcg acagttcttgc cctgcgcctc atgtccgaag cttcgcgaac	360
151 tctgcctgt ggcattccgt gatggggcca tagctcagtt gggagagcgc gtgcgttgc	420
153 agcatgaggt cgtcggttcg atccctcgat gtcacccat tcttctttc ttgaggaaga	480
155 tgcgtatgtt gttgggtcg ctcggctctt ttgagttttt gctcttgggg tcttgcgt	540
157 ctgtccgcg aatatctgtt tcgcgtatgtt catcatgcgg gtcgtccggcg gaacatgcac	600
159 ggctgtatgtt catcgatgtt agggcattgtt tcgcgtatgtt cgtggcaaca cggctgggtc	660
161 gtggggaaagg tggcgacacc tttcgatgcg atcattgggt gtcgtatgtt ccattgtcgat	720
163 caatgcgtatgtt caaagaagac gtcgtatgtt ctcggccggg agcaatcctg	780

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DATE: 09/01/2006

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167	attcggtgga	tgccttggcg	ctaagaggcg	aagaaggacg	tgatacgtcg	cgataagctt	900
169	cggggagccg	cgaatgggc	ttgatccgga	gatttccgaa	tggggcaacc	ca	952
172	<210>	SEQ ID NO:	6				
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174	<212>	TYPE:	DNA				
175	<213>	ORGANISM:	Mycobacterium L1				
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180	ccacgagacc	tggccggccc	gtaaatcgcg	ggatcagccg	attgtcaggc	gattcggtgg	120
182	atggccctt	cacctgttagt	gggtgggggt	ctgggtcacg	acaagcaa	gaccaggatg	180
184	gggacccccc	ttgtgggggt	tgtctgtgc	tgccaaacac	actgttggc	tttgagacaa	240
186	caggccccgtg	cccggttcc	cgggtggctc	cgcgggtgt	gggtcggcgt	gttggtcct	300
188	cacccgtgt	gtgggggtgt	gtgtttgatt	tgtggatagt	ggttcgcgac	atctagcag	360
190	caaatgtggc	tctcgaggct	tccgggtctg	gggggtgtgt	ttgtgtgc	ttgtatgtca	420
192	gtttttttt	tcgaatttgtt	tttttgtgtt	gtaagtgtt	aagggcgc	gttggatgcc	480
194	ttggcactgg	gagccgatga	aggacgtggg	aggctgcgtt	atgcctcg	gagctgtcaa	540
196	ccgagcgtgg	atccgaggat	gtccgaatgg	ggcaaccca			579
199	<210>	SEQ ID NO:	7				
200	<211>	LENGTH:	523				
201	<212>	TYPE:	DNA				
202	<213>	ORGANISM:	Desulfomicrobium norvegicum				
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207	ctccaactcg	ctatttactt	gcaagggttc	ttacccgtc	ggtttagaaa	tggcttgta	120
209	gctcaggtgg	ttagagcgca	cgcctgataa	gcgtgaggc	ggaagttcaa	gtctcccg	180
211	gcccaccatt	tcttagtggg	ggtgtagctc	agctgggaga	gcgcctgcct	tgcacgcagg	240
213	aggtcatcag	ttcgatcc	ttcacccca	ccatttcca	actcgacaa	aatttatgtt	300
215	gctagtctt	atcgtcagag	tgtctttga	cactatggc	cccaagcata	gcagcttg	360
217	atcattgaca	gacgaatagg	tgaagagaag	agagttaga	tgttaaggc	atacggtg	420
219	tgccttggcg	tcaggaggcg	atgaaggacg	tggaggctg	cgataaggct	cggggagccg	480
221	tcaagcaggc	tttgatccgg	ggatttccga	atggggcaac	cca		523
224	<210>	SEQ ID NO:	8				
225	<211>	LENGTH:	662				
226	<212>	TYPE:	DNA				
227	<213>	ORGANISM:	Desulfitobacterium dehalogenans				
229	<400>	SEQUENCE:	8				
230	aagtgcgtac	aaggtagccg	tatcggaaagg	tgcggctgga	tcacccctt	tctaaggaga	60
232	catggttct	cgcttagagaa	atcatatctt	aaggctcgat	ctttaagaa	cgtcacggaa	120
234	gcaatgaagt	gaaacgattc	aaagtcggag	aagtcttaag	agacttctt	tagaaaactt	180
236	ggcttgggt	aagcatgagc	agaaggccata	gttacttat	ccacggagtg	aaaaaatgcc	240
238	gaagaggccaa	aacggagcaa	tccgtaaagt	atgggaaatg	aagctgttg	agttaaaagc	300
240	taacttgg	tttagtttgc	agggaccata	aagtcttcta	tatggggta	tagctcagct	360
242	gggagagcac	ctgccttgc	agcagggggt	cagcggtcg	atcccgctt	cctccaccat	420
244	aatatatctg	gtttctctaa	tgtttattat	gttctttgaa	aactgcacag	agaagaagaa	480
246	aactgttaatt	aggataaacat	ctaaaaccta	gaagtggcgg	caaaaaacgt	ttggtcaagc	540
248	taactaaggc	gtacggtgg	tgccttaggg	ctaagagtcg	aagaaggacg	cggcgagcgg	600
250	cggaaacgcca	cggggagcag	taagcatgcc	ttgatccgtg	gatatccgaa	tggggcaacc	660
252	ca						662

RAW SEQUENCE LISTING DATE: 09/01/2006  
 PATENT APPLICATION: US/10/590,552 TIME: 12:08:10

Input Set : F:\SEQUENCE LISTING.txt  
 Output Set: N:\CRF4\09012006\J590552.raw

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257 <212> TYPE: DNA
258 <213> ORGANISM: Desulfobacterium hafniense
260 <400> SEQUENCE: 9
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265 agatgaatgtg aaacgttca aagctggaga aatctataga gacttcgaag tgccgaagag      180
267 gcaaaggcagg ggaaatctgc ataagatgac cctgaatcg aatcaaacct gttcaagcgc      240
269 aagcttactt gttgttagt ttggagagac cataaagtct tctatggct tatagtctag      300
271 ctgggttagag cgacacccctg ataagcgtga ggtcggtgg tcgagtcac ctaggcccac      360
273 cattattcaa agaggataga gaccggaaacc tccaaacaat acttcacgac agaacatacc      420
275 taacagggggt gagtatttagg agggggagccg ctccctctc aacgacatgg gggtagtgc      480
277 cagctgggggg agcacccgtcc ttgcaagcag ggggtcagcg gttcgatccc gcttacctcc  540
279 accatcatat actgggttct ctaatgttct ttgaaaactg cacagagaag aaaaaactgt      600
281 aatttaggat aacatctgaa aaacctgaat gtggcggaga cggttggtca agctactaag      660
283 ggcgtacgggt ggatgcctag ggcgttaagag tcgagaagg acgcggcggc cggcggaaacg  720
285 ccacggggag cagtaagcat gccttgcattt gtggatatcc gaatggggca accca       775
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289 <211> LENGTH: 422
290 <212> TYPE: DNA
291 <213> ORGANISM: Clostridium formicoaceticum
293 <400> SEQUENCE: 10
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298 aaaatcttag attttgtttt agtcgtttag ttaaaaattc ttaatttac gacaatagtt      180
300 ttaaaccacaa aaaaatgaa tggaaaattt ttaacatct atagtcttt agattgttct      240
302 ttgaaaacta aacaatgata tgagaaaaga aaagctgaag taatttacta aaggtcaagt     300
304 tattaaggc aaagggttggc tgccttggca ctaggagccg aagaaggacg tggtaagctg     360
306 cggaaagcca cggggagctg caagcaagta ttgtccgtg gatgtccgaa tggggaaacc     420
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311 <210> SEQ ID NO: 11
312 <211> LENGTH: 699
313 <212> TYPE: DNA
314 <213> ORGANISM: Desulfuromonas chloroethenica
316 <400> SEQUENCE: 11
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319 ctccttactt ctggaaatgtga aaggcatctt ggtcaatccc tcggcatgtt ccgagcggat    120
321 gcccgtttaaag catcattgtc tgctttagg ttttggggaa ccagaacctc gcaagaggtt     180
323 ttttgggtttt tgagacaaga cgaacgaagg tggaaatggg ctagtagtcc agctggctag    240
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333 atacgttgcata cgaatgtttt cgttgcgtt gcaatgtt gacacgcgaa ggttagcaaca    540
335 cgttgcgttta agtggatgtt tttttatgg tcaatgtt aaggccgtt ggtggatgcc     600
337 ttggcatcggtt gagggatgtt aggacgtt ggtggatgtt aaggccgtt aaggccgtt     660
339 acaggctttt accccggatgtt gtccgttgcattt ggaaacccca     699
342 <210> SEQ ID NO: 12

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/590,552

DATE: 09/01/2006

TIME: 12:08:10

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Output Set: N:\CRF4\09012006\J590552.raw

343 <211> LENGTH: 391  
 344 <212> TYPE: DNA  
 345 <213> ORGANISM: Acetobacterium woodii  
 347 <400> SEQUENCE: 12

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350	acaggaagtc	atggtaactat	tttctttgt	atgaccatct	ggttatgcaa	aaacagttaa	120
352	agaaggcattc	ttaggatgca	tttttaacg	ggacaaaatac	cggagtagtg	gtgcaggc	180
354	ccaatcgatc	attgaaaaca	gcatagtgt	taaataaaat	tataaaatac	aatttcttaa	240
356	cacgaaaaacg	taaattatta	ggatcaagaa	gaaaagagca	cagggtgaat	gccttggcaa	300
358	tcaagagccg	cgaaggacgc	gacaagctgc	gaaaagctac	gtgttagtgc	acataaccgt	360
360	taaagcgtat	atatccgaat	ggggcaaccc	a			391

363 <210> SEQ ID NO: 13  
 364 <211> LENGTH: 608  
 365 <212> TYPE: DNA  
 366 <213> ORGANISM: Dehalobacter restrictus  
 368 <400> SEQUENCE: 13

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373	actggactga	ctctcaagta	aggtgagttt	agcaatttat	ttcttgttgt	ttagtttga	180
375	gtgacctgag	cacagtaatg	tgtaaaagaa	acactcaa	aatgtccata	catacagag	240
377	attctggtaa	gtatgaaaaa	acatccctgt	tctttgaaaa	ctgcacaacg	agaaaagcag	300
379	aatgcgaaat	gcgaaagtaa	agacaacgaa	atggcggtca	aattctaaag	cgcaaaaact	360
381	taacgtttc	gcgcgtggca	aatttgaact	taggagcatc	tatgctccgt	caggtaagaa	420
383	ttactaagcg	cataggagac	attcaaatca	tctataacaa	gtcgaggaag	aaccagaagg	480
385	tcaagatata	aaggcatac	ggtggatgcc	ttggcgccaa	gagccgaaga	aggacgcgt	540
387	taacagcgaat	atgccacggg	gagtgcgtaa	caggcataga	tccgtggatg	tccgaatggg	600
389	gaaaccca						608

392 <210> SEQ ID NO: 14  
 393 <211> LENGTH: 689  
 394 <212> TYPE: DNA  
 395 <213> ORGANISM: Desulfobacterium sp. strain PCE1  
 397 <400> SEQUENCE: 14

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400	catggttct	cgctagagaa	atcatatcct	aaggcgatg	cttgcggat	cgatggaa	120
402	gcaatgaagt	gaaaacgattc	aaagttggag	aagtcttaag	agacttctga	aagccgaa	180
404	ggcaaaacgg	agcaatccgt	aaagtatgag	aaatgaagct	gttgaagtt	aaagctaact	240
406	tgttgttag	ttttgaggga	ccataaaatc	ttctatggc	ttatagctca	gctggtaga	300
408	gcccacgcct	gataagcgt	aggtcggtgg	ttcgagtcc	cctaggccca	ccataaaaaga	360
410	ttgatattgt	gggggtatag	ctcagctgg	agagcacctg	ccttgc	aaagggtcag	420
412	cgttcgacc	ccgttacact	ccaccataat	atatctgg	tctcta	ttattatgtt	480
414	cttggaaac	tgcacagaga	agaagaaaac	tgtaattagg	ataacatca	aaacctagaa	540
416	gtggcgccaa	aaaacgtttg	gtcaagctac	taagggcgta	cggtggatgc	ctaggcgct	600
418	agagtcgaag	aaggacgcgg	cgagcggcga	aaccccacgg	ggagcagtaa	gcatgcctt	660
420	atccgtggat	atccgaatgg	ggcaaccca				689

423 <210> SEQ ID NO: 15  
 424 <211> LENGTH: 468  
 425 <212> TYPE: DNA  
 426 <213> ORGANISM: Desulfobacterium frappieri TCE1  
 428 <400> SEQUENCE: 15

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/590,552

DATE: 09/01/2006  
TIME: 12:08:11

Input Set : F:\SEQUENCE LISTING.txt  
Output Set: N:\CRF4\09012006\J590552.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,  
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:116,117,118

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/590,552

DATE: 09/01/2006

TIME: 12:08:11

Input Set : F:\SEQUENCE LISTING.txt

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L:12 M:270 C: Current Application Number differs, Replaced Current Application Number